

has the highest downstream pressure will open first. Parking the vehicle overnight or for extended periods of time may cause the primary and secondary reservoir pressures to become unequal. During recharging of the air system the secondary reservoir 12 may charge before the primary reservoir 18. It may be desirable to limit the duration the vehicle can be operated in the condition where one reservoir has significantly reduced pressure. By using a pressure equalizing mechanism, such as a connecting line with a suitable orifice 57, the pressures in the reservoirs 12 and 18 slowly become equal so that during recharging of the air system the primary reservoir 18 will charge first. Furthermore, if the primary reservoir 18 has become ruptured or has a severed leak, again the pressure in both reservoirs 12 and 18 will migrate to 0 psi; however, the primary reservoir 18 can be recharged, but the essential accessories and air suspension will not be pressurized because the secondary reservoir 12 cannot be recharged. The pressure equalizing mechanism 57 will cause the pressure in both reservoirs 12 and 18 to be equal, thereby charging the primary reservoir 18 first and limiting the use of the vehicle after a severe leak in either the primary or secondary reservoirs 18 and 12.

What is claimed is:

1. A method for pressurizing and depressurizing a compressed air reservoir including a purge chamber in fluid communication with an air dryer, a service chamber in fluid communication with the air dryer, and a baffle defining the purge and service chambers, the method comprising:

pressurizing the purge chamber with first dried compressed air from the air dryer;

pressurizing the service chamber with second dried compressed air from the air dryer without commingling the first dried air and the second dried air; and

depressurizing the purge chamber to regenerate the air dryer.

2. The method for pressurizing and depressurizing a compressed air reservoir as set forth in claim 1, further including:

depressurizing the service chamber to operate a compressed air system.

3. The method for pressurizing and depressurizing a compressed air reservoir as set forth in claim 1, wherein the purge chamber is pressurized before the service chamber.

4. The method for pressurizing and depressurizing a compressed air reservoir as set forth in claim 1, wherein pressurizing the service chamber includes:

controlling a valve between the service chamber and the air dryer.

5. The method for pressurizing and depressurizing a compressed air reservoir as set forth in claim 1, wherein depressurizing the purge chamber includes:

transmitting the first dried compressed air from the purge chamber to the air dryer without commingling the first dried air and the second dried air.

6. A compressed air reservoir, comprising:

a purge chamber;

a service chamber;

a baffle defining the purge and service chambers;

a first passageway for transmitting first dried compressed air between a dryer and the purge chamber; and

a second passageway for transmitting second dried compressed air between the dryer and the service chamber, the second dried compressed air being transmitted between the dryer and the service chamber without passing through the first passageway.

7. The compressed air reservoir as set forth in claim 6, further including:

a valve, which controls passage of the second dried compressed air between the dryer and the service chamber via the second passageway.

8. The compressed air reservoir as set forth in claim 7, wherein the valve is a protection valve.

9. The compressed air reservoir as set forth in claim 6, wherein the first dried compressed air in the purge chamber is transmitted to the dryer via the first passageway for regenerating a desiccant in the dryer.

10. The compressed air reservoir as set forth in claim 9, wherein circuit components cause the first dried compressed air to pass from the dryer to the purge chamber before the second dried compressed air passes from the dryer to the service chamber.

11. The compressed air reservoir as set forth in claim 6, wherein the second passageway is a tube between the dryer and the service chamber.

12. The compressed air reservoir as set forth in claim 11, wherein the tube passes through the purge chamber.

13. The compressed air reservoir as set forth in claim 6, wherein a volume of the purge chamber is smaller than a volume of the service chamber.

14. A compressed air reservoir, comprising:

a purge chamber;

a service chamber;

a baffle defining the purge and service chambers;

a first passageway for transmitting first dried compressed air between an air dryer and the purge chamber; and a second passageway for transmitting second dried compressed air between the dryer and the service chamber, the second dried compressed air being transmitted between the dryer and the service chamber without passing through the purge chamber.

15. An air reservoir for use on a motor vehicle, comprising:

a first section;

a second section;

a divider between the first and second sections;

a first connection connecting the first section to a source of compressed air; and

a second connection connecting the second section to the source of compressed air, the first connection not connecting the first section to the second section and the second connection not connecting the second section to the first section.

16. The air reservoir for use on a motor vehicle as set forth in claim 15, wherein the divider creates an air-tight seal between the first and second sections.

17. The air reservoir for use on a motor vehicle as set forth in claim 15, wherein a volume of the second section is larger than a volume of the first section.

18. The air reservoir for use on a motor vehicle as set forth in claim 15, further including:

a valve for controlling communication between the second section and the source of compressed air.

19. The air reservoir for use on a motor vehicle as set forth in claim 15, wherein the second connection is routed through the first section.

20. The air reservoir for use on a motor vehicle as set forth in claim 19, wherein the second connection is a tube.

21. The air reservoir for use on a motor vehicle as set forth in claim 15, wherein the first and second connections connect the first and second sections, respectively, to the source of compressed air via an air dryer.

22. An air supply system for a motor vehicle brake system, comprising:

- a compressor for supplying compressed air;
- an air dryer connected to receive compressed air from the air compressor, the dryer including a desiccant bed through which the compressed air flows for providing a dry compressed air source for operating the brake system; and
- a reservoir, including:
 - 10 a first section;
 - a second section;
 - a baffle defining the first and second sections;
 - a first passageway connecting the first section to the source of the dry compressed air; and
 - a second passageway connecting the second section to the source of the dry compressed air, the dry compressed air being transmitted between the source and the second section without passing through the first section.

23. The air supply system for a motor vehicle brake system as set forth in claim 22, further including:

- a housing having a first section connected to the dryer and a second section connected to the reservoir for joining the dryer and the reservoir as a unitary unit.

24. The air supply system for a motor vehicle brake system as set forth in claim 22, wherein:

- a first portion of the dry compressed air is transmitted between the dryer and the first section via the first passageway; and
- a second portion of the dry compressed air is transmitted between the dryer and the second section via the second passageway.

25. The air supply system for a motor vehicle brake system as set forth in claim 24, wherein:

- the first portion of the dry compressed air is not transmitted to the second section; and
- the second portion of the dry compressed air is not transmitted to the first section.

26. The air supply system for a motor vehicle brake system as set forth in claim 24, wherein the first portion of the dry compressed air is transmitted from the first section to the dryer for regenerating the desiccant bed.

27. The air supply system for a motor vehicle brake system as set forth in claim 26, wherein the second portion of the dry compressed air is transmitted to the brake system.

28. The air supply system for a motor vehicle brake system as set forth in claim 26, wherein circuit components cause the first portion of the dry compressed air to be transmitted from the dryer to the first section via the first passageway before the second portion of the dry compressed air is transmitted from the dryer to the second section via the second passageway.

29. The air supply system for a motor vehicle brake system as set forth in claim 26, wherein a volume of the first section is smaller than a volume of the second section.

30. The air supply system for a motor vehicle brake system as set forth in claim 24, further including:

- a valve for controlling the transmission of the second dried compressed air between the dryer and the service chamber.

31. The air supply system for a motor vehicle brake system as set forth in claim 30, wherein the valve is positioned within the second passageway.

32. The air supply system for a motor vehicle brake system as set forth in claim 22, further including a second reservoir connected to the source of the dry compressed air.

33. The air supply system for a motor vehicle brake system as set forth in claim 22, wherein the air dryer is remote from the reservoir.

34. A reservoir used in combination with an air dryer in a compressed air system, the reservoir comprising:

- a first chamber for storing first compressed dried air used for regenerating a desiccant within the dryer;
- a second chamber for storing second compressed dried air for use in a pneumatic system;
- a baffle between the first and second chambers;
- a first passageway for transmitting the first compressed dried air between the dryer and the first chamber, the first compressed dried air not being transmitted to the second chamber; and
- 15 a second passageway for transmitting the second compressed dried air between the dryer and the second chamber, the second compressed dried air not being transmitted to the first chamber.

35. The reservoir used in combination with an air dryer in a compressed air system as set forth in claim 34, further including:

- 20 a valve for controlling the transmission of the second compressed air between the dryer and the second chamber.

36. The reservoir used in combination with an air dryer in a compressed air system as set forth in claim 35, wherein the valve causes the first compressed dried air to be stored in the first chamber before the second compressed dried air is stored in the second chamber.

37. The reservoir used in combination with an air dryer in a compressed air system as set forth in claim 34, wherein the second passageway is a tube passing through the baffle.

38. The reservoir used in combination with an air dryer in a compressed air system as set forth in claim 37, wherein the tube passes through the first chamber.

39. An air reservoir for use on a motor vehicle, comprising:

- a first section in independent fluid communication with a source of compressed air;
- a second section in independent fluid communication with the source of compressed air; and
- 40 a divider between the first and second sections.

40. The air reservoir as set forth in claim 39, wherein the first section is not in independent fluid communication with the second section.

41. An air reservoir for use on a motor vehicle, comprising:

- a first section;
- a second section;
- 45 a divider between the first and second sections;
- a first passageway independently fluidly connecting the first section to a source of compressed air; and
- a second passageway independently fluidly connecting the second section to the source of compressed air, the first passageway not independently fluidly connecting the first section to the second section and the second passageway not independently fluidly connecting the second section to the first section.

42. The air reservoir for use on a motor vehicle as set forth in claim 41, further including:

- a valve for controlling the fluid communication between the second section and the source of compressed air via the second passageway.

43. The air reservoir for use on a motor vehicle as set forth in claim 41, wherein the second passageway is passes through the first section.

11

44. The air reservoir for use on a motor vehicle as set forth in claim 43, wherein the second passageway is a tube.

45. An air supply system for a motor vehicle brake system, comprising:

- a compressor for supplying compressed air;
- an air dryer connected to receive compressed air from the air compressor, the dryer including a desiccant bed through which the compressed air flows for providing a dry compressed air source for operating the brake system; and
- a reservoir, including:
 - a first section;
 - a second section;
 - a baffle defining the first and second sections;
 - a first passageway connecting the first section to the source of the dry compressed air; and
 - a second passageway connecting the second section to the source of the dry compressed air, the dry com-

12

pressed air being transmitted between the source and the second section without passing through the first section during a first operating mode.

46. The air supply system as set forth in claim 45, wherein, during the first operating mode, a first portion of the compressed air is stored in the first section before a second portion of the compressed air is stored in the second section.

47. The air supply system as set forth in claim 46, wherein the second portion of the dry compressed air is transmitted from the first section to the second section during a second operating mode.

48. The air supply system as set forth in claim 47, wherein the first portion of the dry compressed air is transmitted from the first section to the dryer for regenerating the desiccant bed during the first operating mode.

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